

PROJECT DESCRIPTION

I. GENERAL

This project involves the modification of the existing traffic control signal with intersection lighting at US 40 and Ridge Road in Howard County, Maryland. US 40 is considered to run in a east/west direction.

II. INTERSECTION OPERATION

The existing cabinet and controller will be utilized. One (1) two channel time delay output loop detector amplifiers with harness will be added to the cabinet. The existing phasing is to be changed to operate in a NEMA six (6) phase, full full traffic actuated mode. There will be exclusive/double left turn movements for both east and westbound US 40. The US 40 through movements will run concurrently. The Ridge Road through movements will operate as a side street split with overlaps to provide clearance for the crossover area.

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY S.H.A. AND INSTALLED BY THE CONTRACTOR.

Quantity	Unit	Specification Section	Description
4	EA	814	12", one-way, three-section (RA,YA,GA) adjustable polycarbonate traffic signal head having proper span wire hangers, balance adjusters, and tunnel visors
2	EA	816	Microloop probe (set of three) with 30' of lead in cable
1	EA	816	Two-channel loop detector amplifier with time delay output with detector panel and harness
4	EA	813	30" x 36" R3-5(L) Sign -- span wire mount
1	EA	813	30" x 36" R3-5(L) Sign -- mast arm

EQUIPMENT LIST

B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

Quantity	Unit	Specification Section	Description
Lump Sum	LS	108	Mobilization
Lump Sum	LS	104	Maintenance of Traffic (traffic control)
250	SF	104	Temporary construction signs
4	UD	104	Provide flashing arrow panel
1	CY	104	Test pit excavation
7	EA	811	Handhole
1550	LF	815	Saw Cut
100	LF	819	1/4" tether wire
100	LF	819	3/8" steel span wire
4250	LF	810	Loop detector wire (No. 14 A.W.G.) encased in flexible tubing
4305	LF	810	2-conductor electrical cable (aluminum shielded)
270	LF	810	5-conductor electrical cable (No. 14 A.W.G.)
165	LF	805	1" liquid tight flexible non-metallic conduit for loop detector lead-in
260	LF	805	2" polyvinyl chloride (Schedule 80) electrical cable -- trenched during construction
15	LF	810	Bare copper stranded ground wire (No.: 6 A.W.G.)

EQUIPMENT LIST

B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

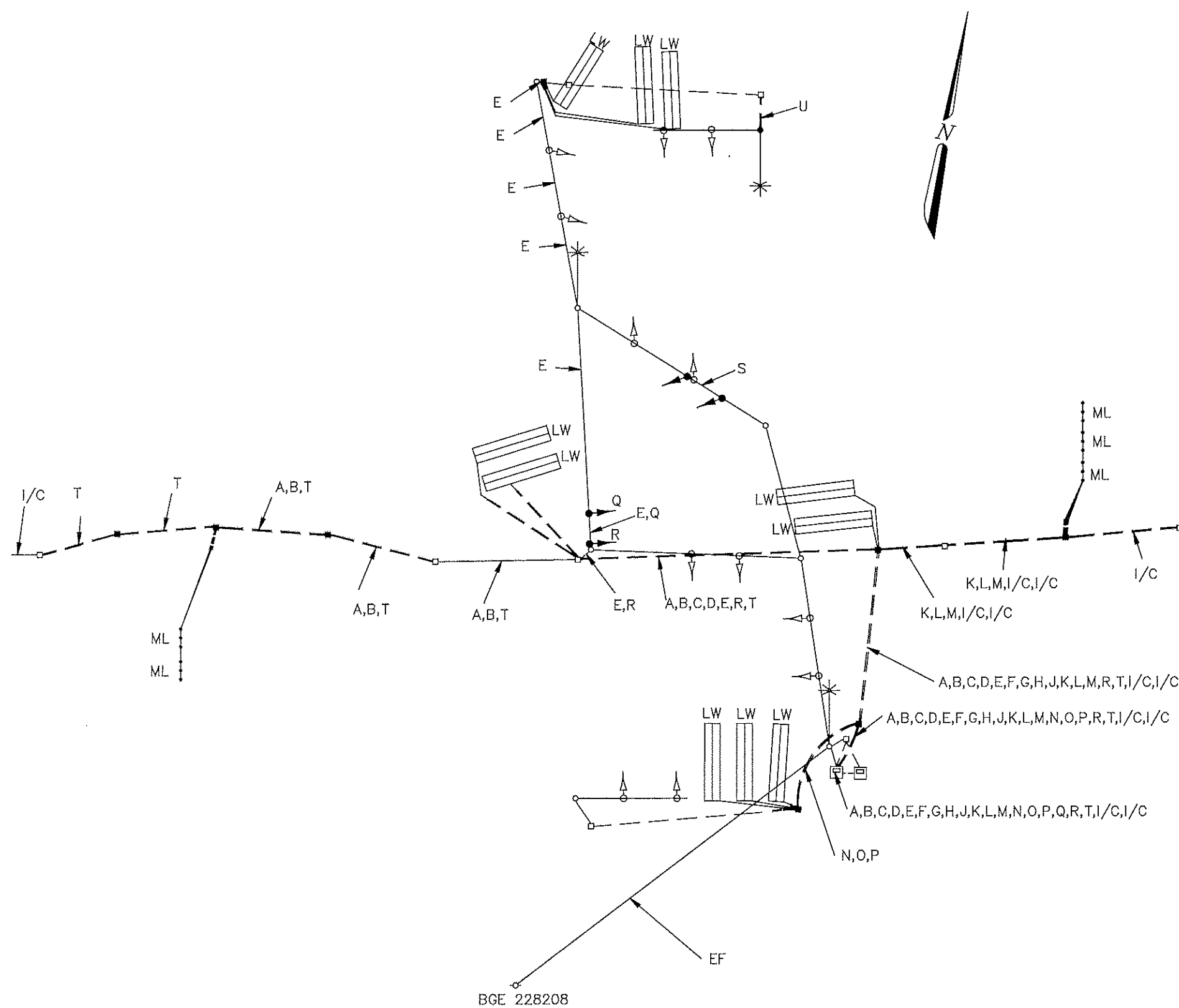
Quantity	Unit	Specification Section	Description
100	LF	805	3" polyvinyl chloride (Schedule 80) electrical cable -- pushed
85	LF	805	4" polyvinyl chloride (Schedule 80) electrical cable -- pushed
1100	LF	805	2" polyvinyl chloride (Schedule 40) electrical conduit -- trenched
110	LF	104	Preformed pavement markings-- white 24" wide for stop line
3	CY	801	Concrete Foundation
1	EA	808	27" steel pole with 40' mast arm
4	EA	----	1 3/4" x 90" anchor bolts
1000	LF	810	12 Pair Voice Grade jelly filled telemetry cable (No.:19 A.W.G.)
2	EA	----	3-M Underground waterproof splice kit
2	EA	----	Ground rod

EQUIPMENT LIST

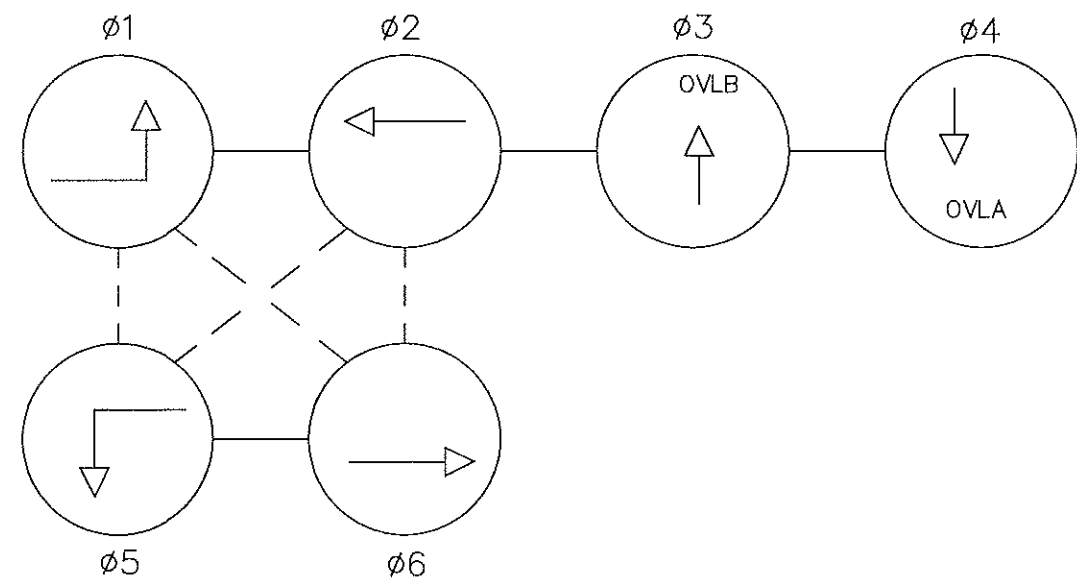
C. EXISTING EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND DELIVERED TO THE OFFICE OF TRAFFIC, SIGNAL SHOP, TRAFFIC OPERATIONS DIVISION, MARYLAND STATE HIGHWAY ADMINISTRATION, 7491 CONNELLEY DRIVE, HANOVER, MARYLAND 21076. A TWENTY-FOUR (24) HOUR NOTICE IS REQUIRED PRIOR TO DELIVERY. PLEASE CONTACT MR. ED RODENHIZER AT (410) 787-7650.

Quantity	Unit	Description
4	EA	12", one-way three-section signal head
3	EA	R3-5(L), R3-6(L), R10-10
1	EA	27" Steel pole with mast arm

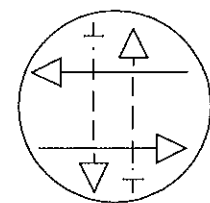
WIRING DIAGRAM



NEMA PHASING



Flashing Operation



- Phases associated by a dashed line will operate concurrently.
- Phases associated by a solid line will not operate concurrently.

PHASE CHART

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←

Phase 1 & 5	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
1 & 5 Change To Phase 1 & 6 or Phase 2 & 5	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
Phase 1 & 6	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
1 Change	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
Phase 2 & 5	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
5 Change	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
Phase 2 & 6	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
2 & 6 Change	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
Phase 3	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
3 Change	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
Phase 3 Clearance	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
Phase 3 Clear Change	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
Phase 4	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
4 Change	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
Phase 4 Clearance	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
Phase 4 Clear Change	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←
Flashing Operation	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←	←

NOTE: The Advance Warning Sign for westbound US 40 will flash during two and six change and go off at the start of two and six green.

WIRING NOTES

- ML -- Mirco-Loops
- 2-Conductor Cable (Aluminum Shielded)
- 5-Conductor Cable (No.14 A.W.G.)
- 12 Pair Voice Grade jelly filled telemetry cable (No.:19 A.W.G.)
- Bare copper stranded ground wire (No.6 A.W.G.)
- Existing Interconnect cable
- LoopWire (No.14 A.W.G.) In Flexible Tubing
- Existing feed

MDOT -- STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION

LOG MILE # 130041018.56

DRAWN BY: M. A. MEARS
DES. BY: M. A. MEARS
CHK. BY: *[Signature]*
DATE: 04/21/95
SCALE: 1"=20'

F.A.P. NO. _____
S.H.A. NO. BW 819-802-712

GENERAL INFORMATION
US 40 AND RIDGE ROAD
COUNTY: HOWARD
TS/STD. NO. 951F-G1

SHEET NO. _____
OF _____

